

Market Plan

Introduction

TPR's iDEN System Market Segments

Market Segment	Primary Benefits	Secondary Benefits	Other Benefits	Average Revenue Per Subscriber
Hi-Volume Cellular Users	<ul style="list-style-type: none"> -Instant Access & Cost Savings on Intra-Company Communications -Competitive Rates -Excellent Voice Clarity -Integrated Answering Machine 	<ul style="list-style-type: none"> -Digital Privacy -Fraud Protection -Call Alert -Small Talk Group 	<ul style="list-style-type: none"> -Second Number Pager -One Touch Callback -IndustryNET -Alpha Phone-Book 	\$140
Multi-Device Users Cellular/Pager	<ul style="list-style-type: none"> -Second Pager # vs. Single Access # -One touch callback -Instant Access & Cost Savings on Intra-Company Communications -Competitive Rates 	<ul style="list-style-type: none"> -Digital Privacy -Single bill -Integrated Answering Machine -Single Device -Message Storage on System 	<ul style="list-style-type: none"> -Fraud Protection -Group Call Capable -Call Alert 	\$90
Multi-Device Users Conventional 2-Way & Cellular & Pager	<ul style="list-style-type: none"> -Island Wide Instant Access -Competitive Rates -Excellent Voice Quality -Digital Privacy -Equipment Price 	<ul style="list-style-type: none"> -Single Device Bill -Single Bill -Call Alert -Message Storage on System -One Touch Callback 	<ul style="list-style-type: none"> -Call Restrictions -Military Specs on Units -Group Call Capable 	\$60
SMR Migration	<ul style="list-style-type: none"> -Island Wide Instant Access -Competitive Rates -Equipment Price -Excellent Voice Clarity 	<ul style="list-style-type: none"> -Military Specs on Units -Digital Privacy -Cellular Capabilities -System Access (low blocking) 	<ul style="list-style-type: none"> -Call Restrictions -Fraud Protection -Single Number Access -Call Alert 	\$40
Family Communications	<ul style="list-style-type: none"> -Competitive Rates -Instant Family Communications -Instant Access vs Small Talk Group 	<ul style="list-style-type: none"> -Single Bill -One-Stop Shopping -Excellent Voice Clarity 	<ul style="list-style-type: none"> -Integrated Answering Machine -Call Alert -Call Restrictions 	\$ Future Products

TeleCellular de Puerto Rico, Inc.
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Market Plan

Introduction

TPR's iDEN Revenue and Subscriber Profile

**TPR
Subscriber
Breakdown**

**Full Function
Cellular User**

**Average
Monthly
Revenue**

5%

\$140

**Hi-Volume
Cellular Users**

20%

\$90

**Multi-Device Users
Cellular/Pager**

60%

\$60

**Multi-Device Users
Conventional 2-Way
& Cellular & Pager**

15%

\$40

SMR Migration

Base SMR User

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Introduction

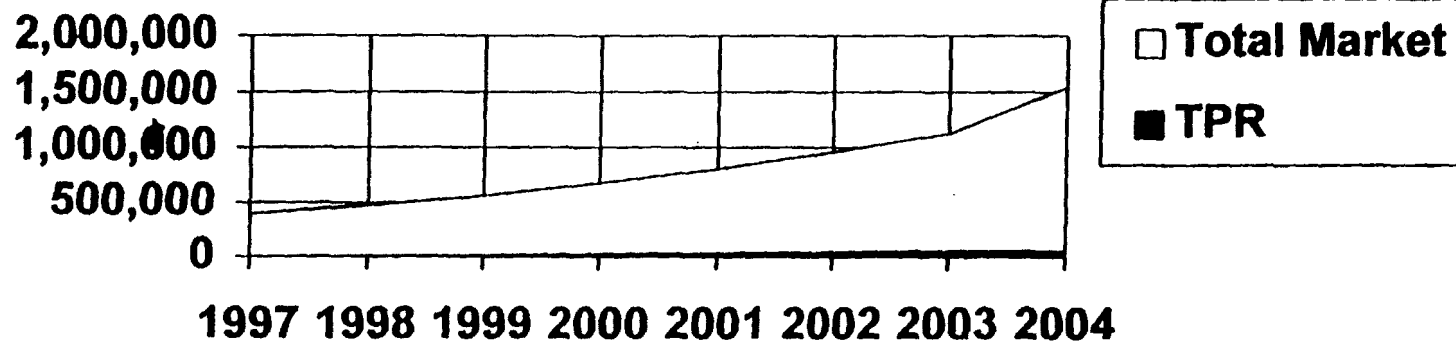
TPR's Market Penetration Summary

<u>Market</u>	<u>Total Market Size</u>	<u>TPR Projection</u>	<u>Total TPR % Penetration</u>	<u>Market Segments</u>
Cellular New Entrants @ 40% Penetration Next 8 Years	800,000	-		Multiple Device Users Hi-Volume Cell Users
Cellular Replacement @ 15% per year	<u>120,000</u>	-		20% cell/pager Users
Total TPR of New & Replacement Market	920,000	60,000	6.5%	
SMR-Existing Conversion of existing users	13,000	5,200	40%	High End SMR Users Existing analog SMR
SMR-New Entrants from Conventional 2-Way Radios Frost & Sullivan Projections	22,000	10,000	45%	7% of 2-Way/Cellular 20% cell/pager Users

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Introduction

TPR's Cellular Market Share is never over 6.0%
of Cellular Market

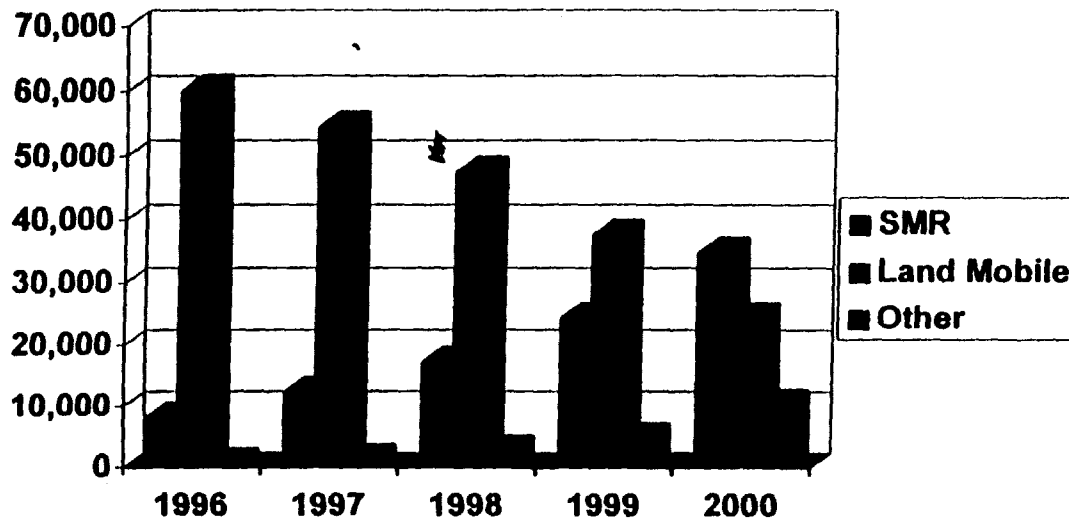


	1	2	3	4	5	6	7	8
Year	1997	1998	1999	2000	2001	2002	2003	2004
TPR Total Subscribers	0	11,400	24,510	39,159	52,343	64,209	74,888	75,949
TPR Cellular Users		9,120	19,608	31,327	41,874	51,367	59,910	60,759
TOTAL TPR % Cellular Market	0.0%	2.0%	3.6%	4.8%	5.5%	5.7%	5.6%	4.1%
Total Cellular Market	395,000	466,100	549,998	648,998	765,817	903,664	1,066,324	1,484,749
Market Penetration %	9.0%	12.3%	14.5%	16.9%	19.9%	23.5%	27.7%	38.6%
New Users into Market		71,100	83,898	99,000	116,820	137,847	162,660	418,425
TPR Share % of New Users		12.8%	15.6%	14.8%	11.3%	8.6%	6.6%	0.3%

Market Plan

Introduction

Frost & Sullivan Two-Way Land Mobile Projections as applied to Puerto Rico Market



Land Mobile Two-Way radio users will convert in increasing numbers to SMR systems and other wireless services as the cost of maintaining private systems and new re-farming of VHF and UHF frequencies guidelines from the FCC come into effect.

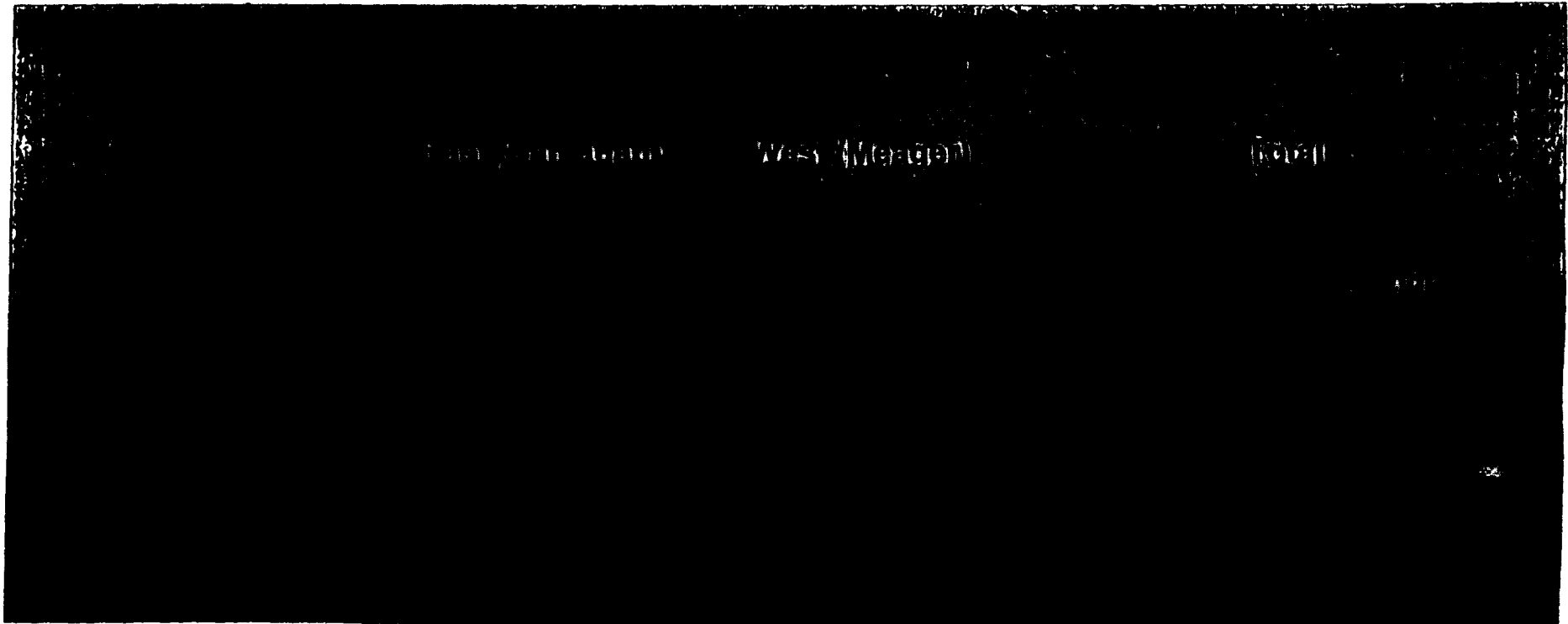
	1996	1997	1998	1999	2000
SMR	12.0%	18.0%	25.0%	35.0%	50.0%
Land Mobile	86.0%	78.0%	68.0%	54.0%	35.0%
Other	1.0%	2.0%	4.0%	7.0%	15.0%
Current Base of Radio Users	70,000				
SMR	8,400	12,600	17,500	24,500	35,000
Land Mobile	60,200	54,600	47,600	37,800	24,500
Other	700	1,400	2,800	4,900	10,500

TPR's use of Motorola iDEN infrastructure and subscribers give it a unique position in the market to participate not only those users migrating to SMR but also those migrating to Cellular and other wireless technologies.

Market Plan

The Wireless Market

Bids for PCS Licenses in Puerto Rico



Market Plan

The Wireless Market

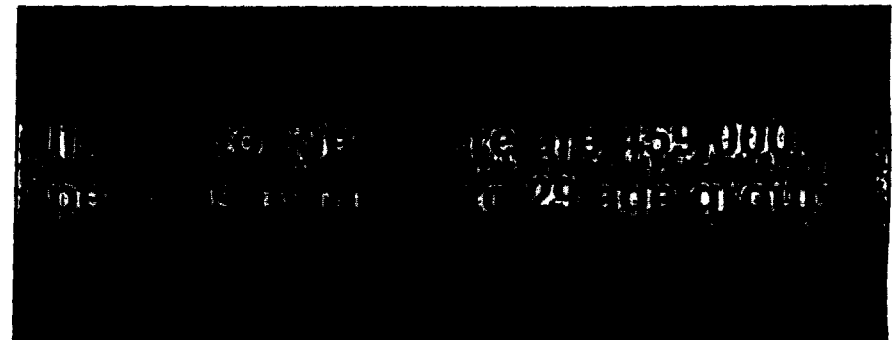
Strategis Group "U.S. PCS Marketplace :1997"

More than 50 percent of the people between the ages of 18-29 with cellular or PCS service are interested in having a wireless phone according to survey by The Strategis Group.

The driving force behind future wireless subscriber growth will be these younger users, says Strategis consultant Thomas Ross. Their acceptance of wireless technology has surpassed that of older age groups, and their reasons for wanting wireless service will increase carrier revenues.

The company said that overall wireless penetration will reach 40 percent of the population.

Source: The Strategis Group 8/97



Market Plan

The Wireless Market

Cellular Industry Growth

"Cellular Market to Grow at 13 Percent Rate for 5 Years"

- The market research firm IDC-Link says that the cellular and paging sectors of the U.S. wireless industry increased by 22 percent in 1996, down from a gain of 31 percent in 1995. The U.S. cellular industry had 41.9 million customers by the end of 1996, a 34.1 percent jump from 1995. The industry earned revenues of \$25.3 billion, a rise of 11.9 percent, according to IDC-Link.
Investor's Business Daily (02/11/97)

"Ericsson Revises Upward Forecast of World's Cellular Subscribers"

February 10, 1997 -- Ericsson has revised its forecast for the world's cellular subscribers upwards. From an estimated total of 137 million at the end of 1996, an increase by close to 50 million or 57 percent over 1995, the total number at the end of year 2000 is expected to be 480 million. Extended to 2001 the world will have some 590 million subscribers. Years 1997 to 1999 are predicted to have approximately 205, 285 and 380 million respectively.

Geographically, North America was the largest market in 1996 with an estimated 47 million subscribers followed by Asia-Pacific with 42 and Western Europe 36 million. With its very high growth rate Asia-Pacific will surpass North America in 1997 with an expected 68 million against 61.

Of the estimated increase of close to 50 million in 1996, 33 million or 65 percent were digital subscribers. From 1999 on, more than 100 percent of the net total increase will be digital as analog will peak in 1998.

Seen over a 5 year period, 1996 to 2001, digital subscribers are expected to grow 10-fold, from 50 million to 500 million. Of the 33 million net increase in digital subscribers in 1996, 98 percent were in TDMA-based technologies; GSM, D-AMPS and PDC.

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The Wireless Market

Cellular Industry Growth Projections

Wireless Subscribers

	1996	2001	2005
Cellular			
Donaldson	43,500,000	74,125,000	91,463,000
Paul Kagan	44,300,000	79,900,000	94,900,000
PCS			
Donaldson	300,000	19,775,000	40,438,000
Paul Kagan	300,000	18,400,000	37,200,000
ESMR			
Paul Kagan	480,000	4,268,000	10,355,000
Mobile Satellite			
Business Week	7,000,000		
Cordless*CEMA	59,000,000	83,000,000	108,000,000

Source:CTIA Web page

*Cordless is not a subscription service. Number refers to units in use.

Market Plan

The Wireless Market

Market Focus Observations

Wireless Market

- Historically wireless services have shown to be complementary to each other and have promoted growth of each other.
- The introduction of cellular did not, in spite of forecasts to the contrary, make paging disappear.
- Although displacement has occurred outright substitution has not.
- The use of pagers as a means to screen incoming cellular calls has prompted cellular companies to offer paging service and to offer integrated phone/pager handsets.
- The ability to use integrated radio/cellphone and integrated radio/pager will be attractive to many two-way and analog SMR radio users.
- Where a wireless device is inappropriately used, businesses have substituted. It is typical when cellular phone have been used when SMR/dispatch was more appropriate and cost-effective.
- Historically SMR services have had greater acceptance when cellular is being offered.

Market Plan

The Puerto Rico Wireless Market

Puerto Rico Wireless Market Highlights

- **Market Summary.**

- New Federal Telecommunications regulations has prompted decrease in intra-island rates. The intra island market has been opened for competition among the long distance carriers.
- Due to more open and intense competition, Puerto Rico's government has decided to sell the PR Telephone Co. This includes **Celulares Telefonica** which sells and markets cellular and paging service.
- **Centennial de Puerto Rico** went commercial with a CDMA system, offering limited metro (San Juan) area coverage, late December 1996. As of April of 1997 they have 15,000 subscribers.
- Cellular Communications of Puerto Rico holding company of **Cellular One** has restructured with the stated objective of pursuing additional business opportunities in and outside of Puerto Rico.

- **Puerto Rico's trunking industry is under-developed.**

- FCC regulations limited two-way growth in the past, due to the 40 mile regulatory rule which prevented adequate (ISLAND-WIDE) market coverage.
- Cost of setting up coverage has limited many of the operators to coverage of local (single site) systems or wide area systems with limited capacity.
- Trunking equipment maintains the highest wireless price point in Puerto Rico.

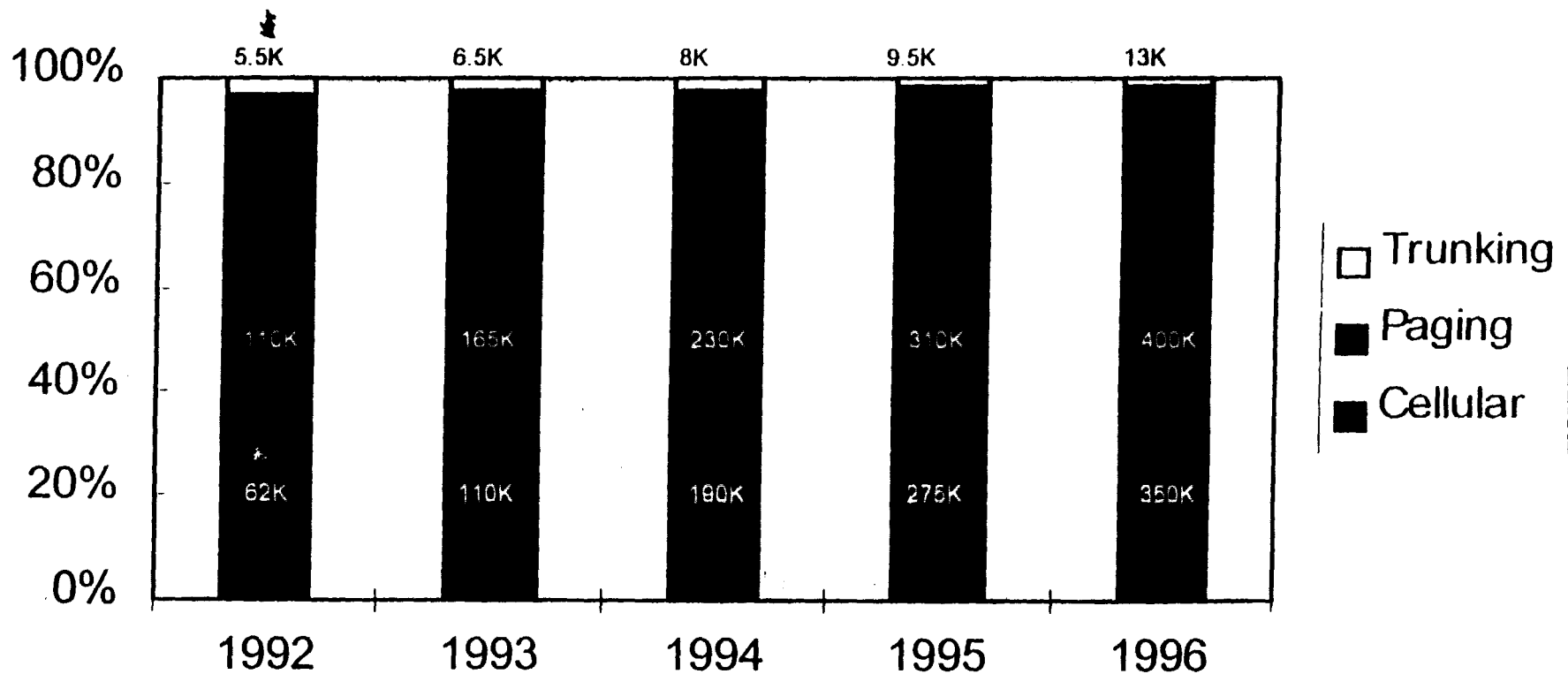
- **Wireless exposure is abundant.**

- Cellular's (10%) and paging's (13%) wireless penetration are approaching mass market appeal.
- Celpage after their merge with competitor TPI has become the largest pager company in Puerto Rico. They have initiated an expansion into the Latin American market.

Market Plan

The Puerto Rico Wireless Market

Puerto Rico Wireless Installed Base

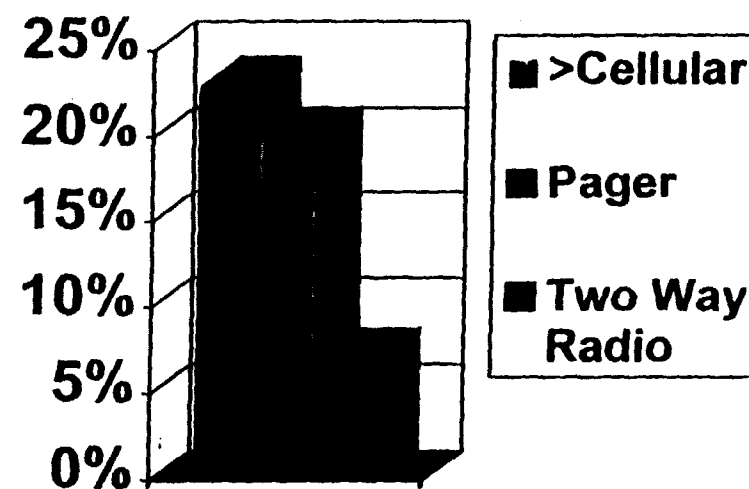
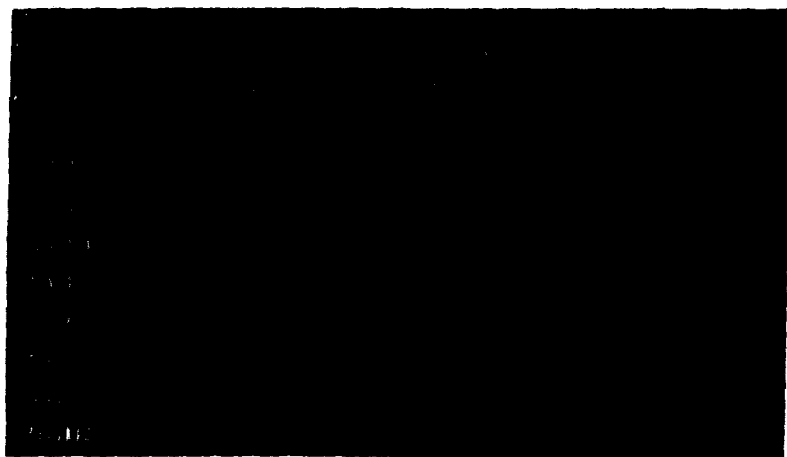
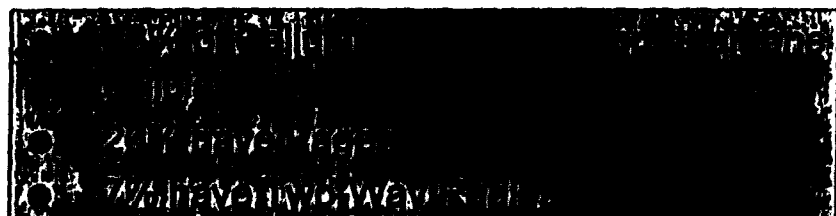


Trunking Radio category does not include conventional two-way radio. Estimated at 70,000 users at end of 1996.

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The Puerto Rico Wireless Market

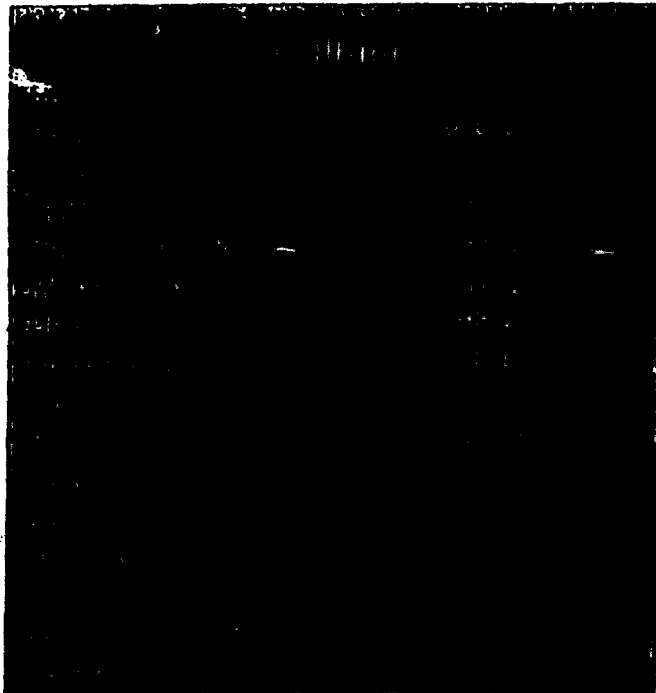
Multiple Device Market in Puerto Rico



Market Plan

The Puerto Rico Wireless Market

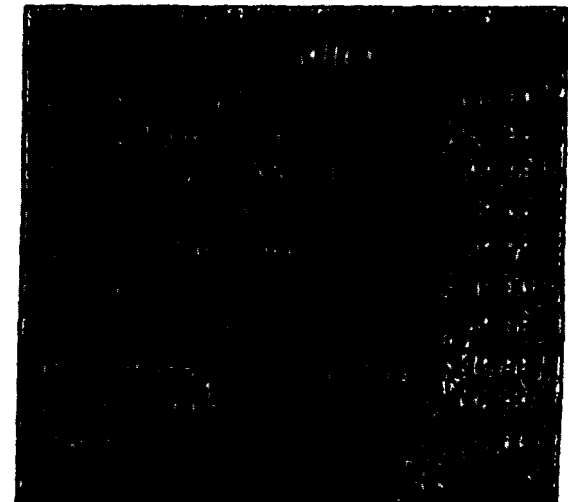
Puerto Rico Wireless Retail Pricing



Cellular- Pricing based on one year contract. Sources:
Cellular One; PRTC; Centennial and reseller placed ads.

Trunking (SMR) Radios	
Motorola Base GTX	1,400
Motorola Visar	1,200
GE Base	1,200
Uniden Base	1,100
Motorola MTX (portable)	895
GE (portable)	850
Uniden Portable	800
Motorola GTX (portable)	800
Standard HX582T	675

Trunking: Pricing includes \$25 activation fee.

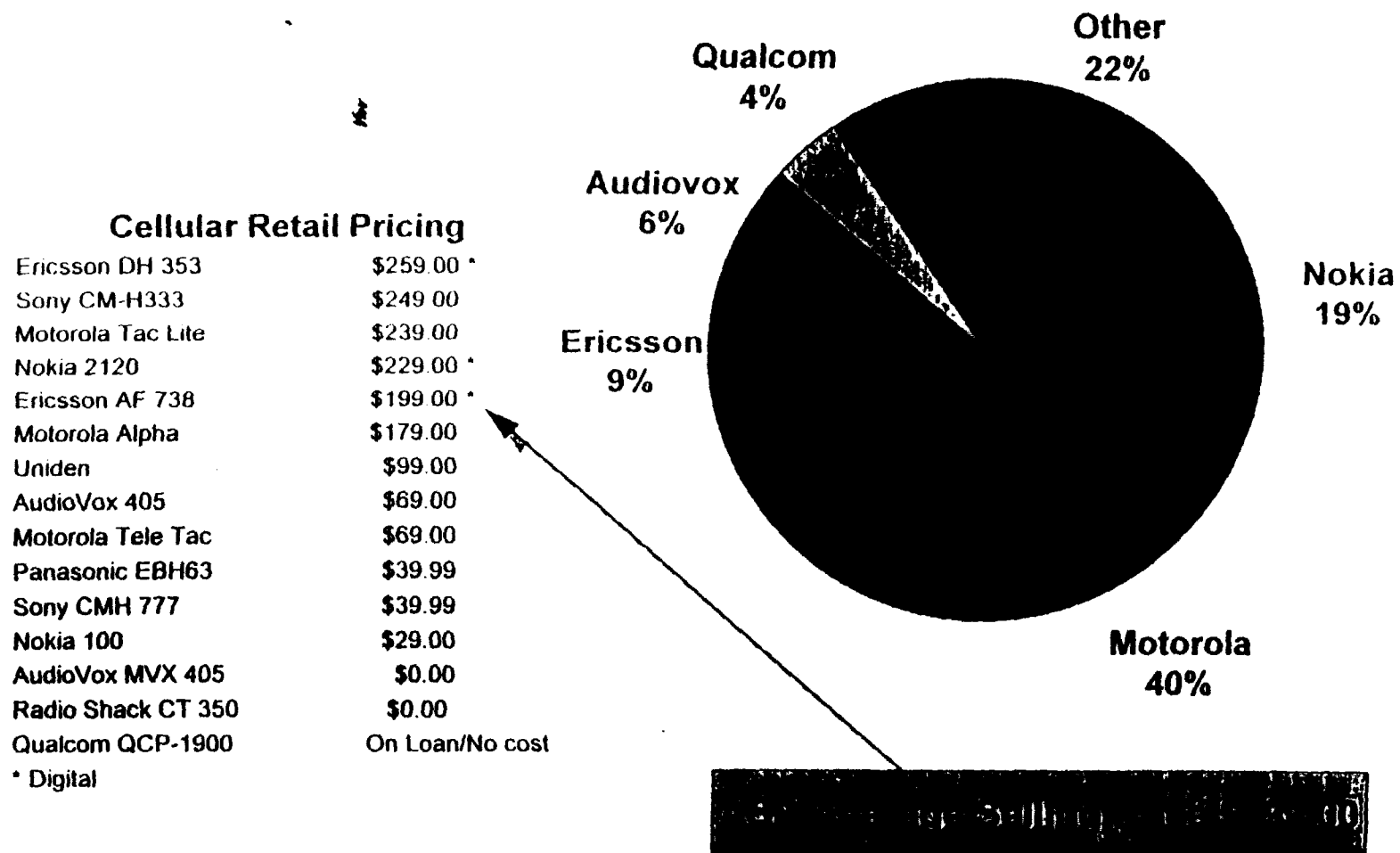


Paging: Requires \$30 activation fee

Market Plan

The Puerto Rico Wireless Market

Cellular Phone Market Share by Brand



Market Plan

The Puerto Rico Wireless Market

Market Participants Cellular

- ◆ **Celulares Telefonica (Puerto Rico Telephone Co.) - Analog in transition to TDMA Digital-Ericsson**
- ◆ **Cellular One (CCPR) Cellular "A" - Analog in transition to TDMA Digital-Nortel**
- ◆ **Centennial (CATV) PCS - CDMA - Lucent Technologies**
- ◆ **AT&T Wireless PCS - TDMA - or Ericsson (Lucent Technologies)**
- ◆ **Sprint Spectrum PCS - CDMA- Lucent Technologies**
- ◆ **PCS 2000 PCS - no announcement**
- ◆ **Telecellular de Puerto Rico, Inc. - TDMA-Motorola iDEN**

Market Plan

The Puerto Rico Wireless Market

Cellular/PCS Carrier Offering Summary

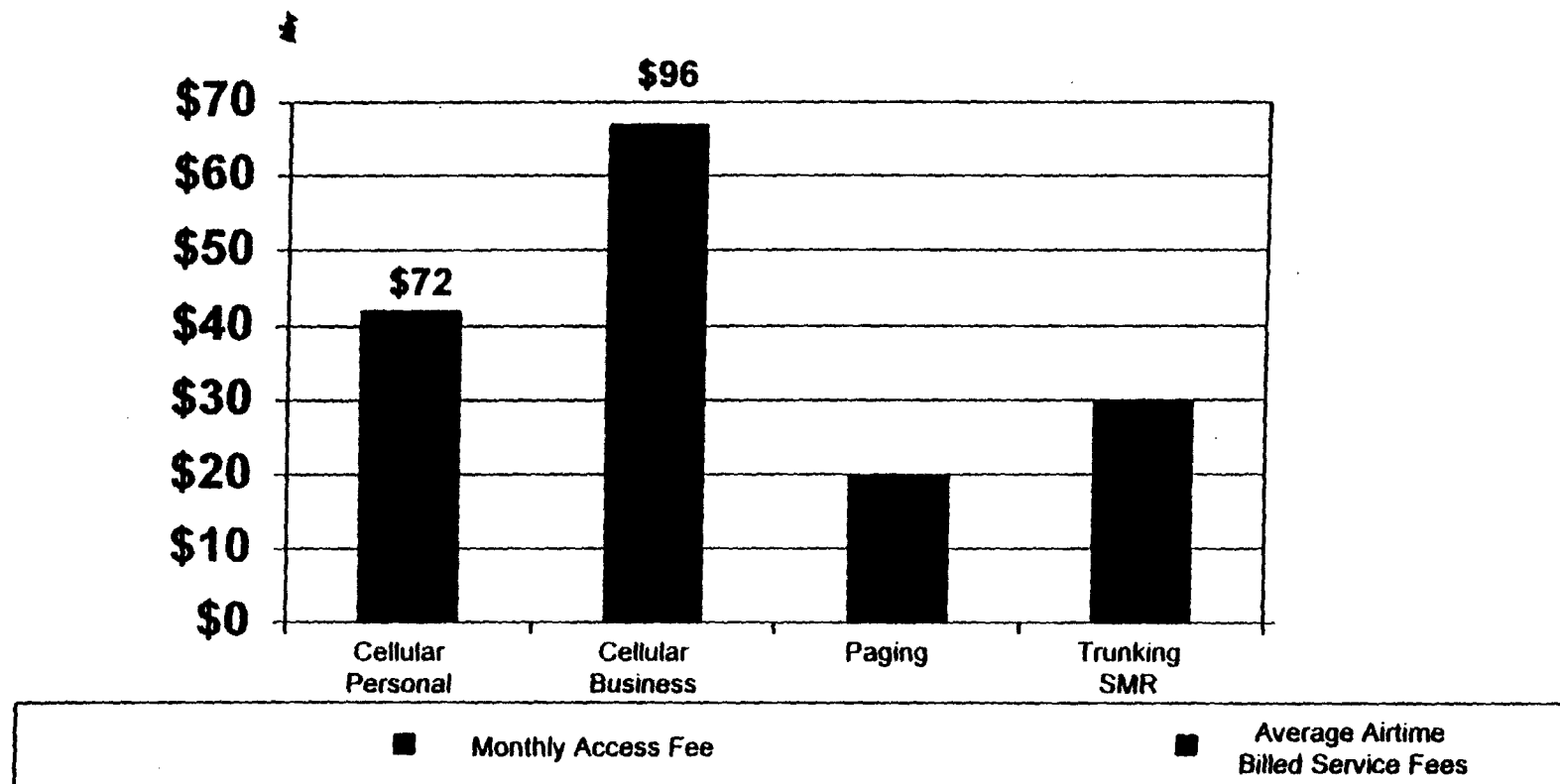
	<u>Centennial</u>	<u>Cellular One</u>	<u>Celulares Telefonica</u>
Set-up costs	Programming \$99.95 Includes digital phone	Activation \$100.00 Phone: \$ 89.95 to \$339.00	Digital phone \$199.00
Contract	No requirements	One to two years	Minimum one year contract
	Exchange Program- \$49.95 credit applicable to 1st. bill		
Additional Phones on the same contract	Companion \$16.95	\$14.95 plus cost of telephone; \$35.00 Activation fee \$0.39 per minute	\$14.95 plus cost of telephone; \$35.00 Activation fee \$0.39 per minute
Other		\$4.95 add 500 minutes talktime for calls on weekends	

Source: *The San Juan Star* 3/97

Market Plan

The Puerto Rico Wireless Market

Puerto Rico Average Monthly Wireless Service Fees



Market Plan

The Puerto Rico Wireless Market

Puerto Rico Cellular Airtime Service Rates

Celulares Telefonica PR Telephone

<u>Option</u>	<u>Quantity of Lines</u>	<u>Monthly Fee</u>	<u>Minutes Included</u>	<u>Per Additional Minute</u>
Individual Plan				
A	1-4	\$35.99	0	\$0.35
B	1-4	\$59.99	75	\$0.33
C	1-4	\$79.99	150	\$0.30
D	1-4	\$119.99	30	\$0.27
Corporate Plan				
E	5-10	\$31.95	8	\$0.35
F	11-24	\$30.95	8	\$0.25
G	25+	\$29.95	8	\$0.25
Associates				
H	50+	\$32.00	6	\$0.25
Group				
	10-29	\$32.00	6	\$0.27
	30-49	\$32.00	6	\$0.26
	50+	\$32.00	6	\$0.25
Security Plan				
K	1	\$19.95	0	\$0.89

Market Plan

The Puerto Rico Wireless Market

Trunking Airtime Service Rates

North Site Communications (Uniden /LTR System)

<u>Plan</u>	<u>Monthly Fee</u>
Local Area (San Juan-Metro Area)	\$15
Local Area (Mayaguez, Ponce)	\$10-\$12
Multi-Site	\$20-\$25
Island Wide (3 or more repeaters)	\$30-\$40

Telephone interconnect is not offered. Total of seven sites.

Industrial & Communications Electronics (Ericsson/GE System)

<u>Plan</u>	<u>Monthly Fee</u>
Local	\$15-\$20
Island Wide	\$35-\$40

Castle Tower, previously Motorola Network Services (Motorola Privacy Plus System)

<u>Plan</u>	<u>Monthly Fee</u>
Local (San Juan-Metro Area)	\$20
Island Wide (Three sites)	\$40-\$45

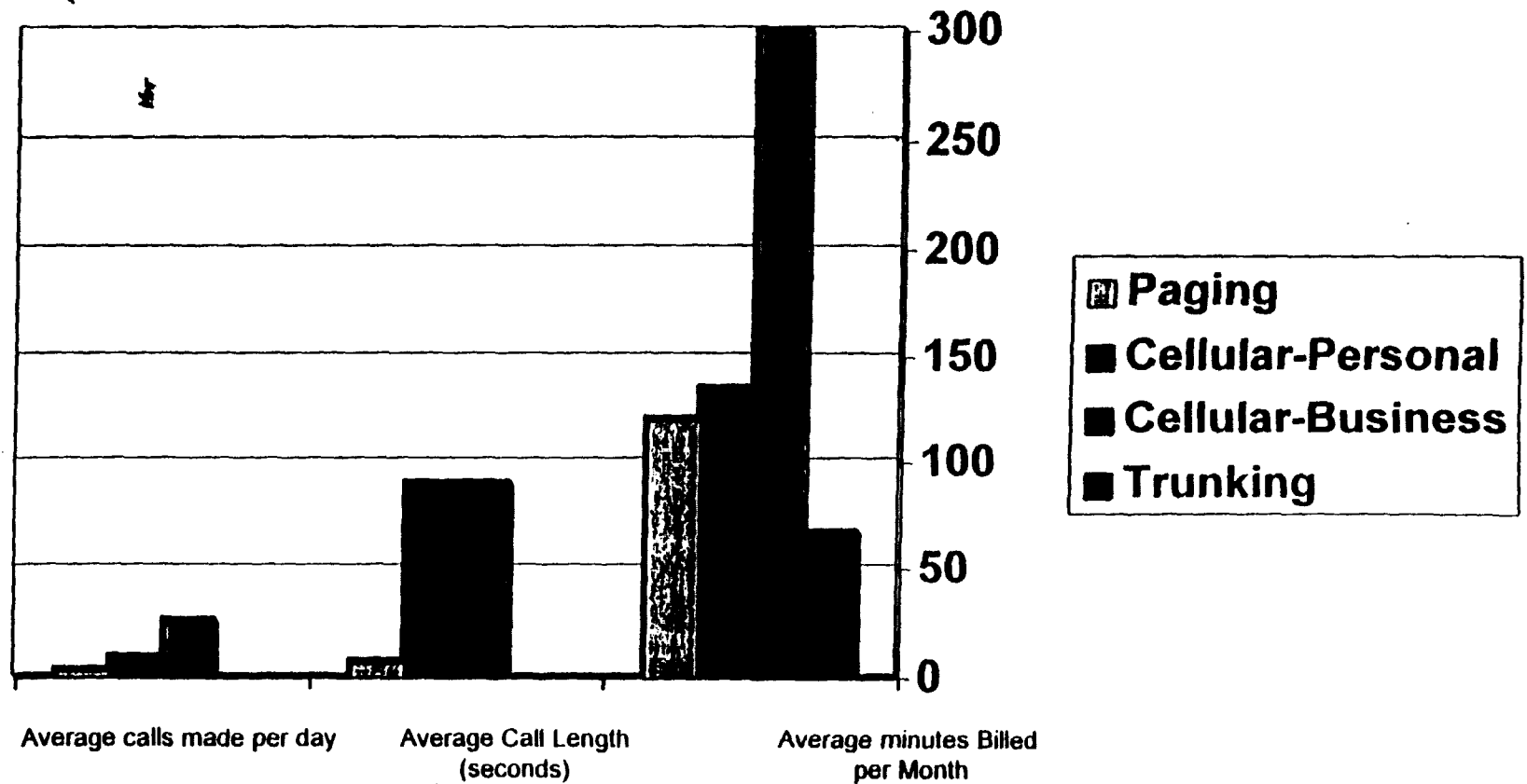
Sources: SMR Dealers and carriers.

Note: Fees may be discounted based on amount of radios activated.

Market Plan

The Puerto Rico Wireless Market

Average Call Patterns



*Paging column is for calls made per month
Trunking is for average minutes used per month*

Market Plan

The Puerto Rico Wireless Market

Characteristics of Puerto Rico SMR Market

- There are no registered business failures among SMR operators and only one change of ownership registered during the last five years.
- Fragmented with no major marketing initiatives or alternate distribution channels other than their own direct sales force, except, agreements with some radio distributors.
- Very little advertising- except in special newspaper supplements by all operators- only four ads have been noted in the two major daily newspapers during the last eighteen months. Conventional two-way radio advertising has been more intense with seven ads.
- Portable market (80%)- majority of users prefer portable subscribers; will use mobile radios for increased coverage purposes.
- Coverage very important but difficult.-users accept gaps in island wide coverage. Island wide coverage is the preferred mode for the majority of users.
- Offering for metro area coverage has excessive capacity. Motorola, High Tech, M. Muñoz and others offer metro area coverage. None of these systems are loaded. A situation of excess capacity will translate into stronger competition and price erosion for this market segment.

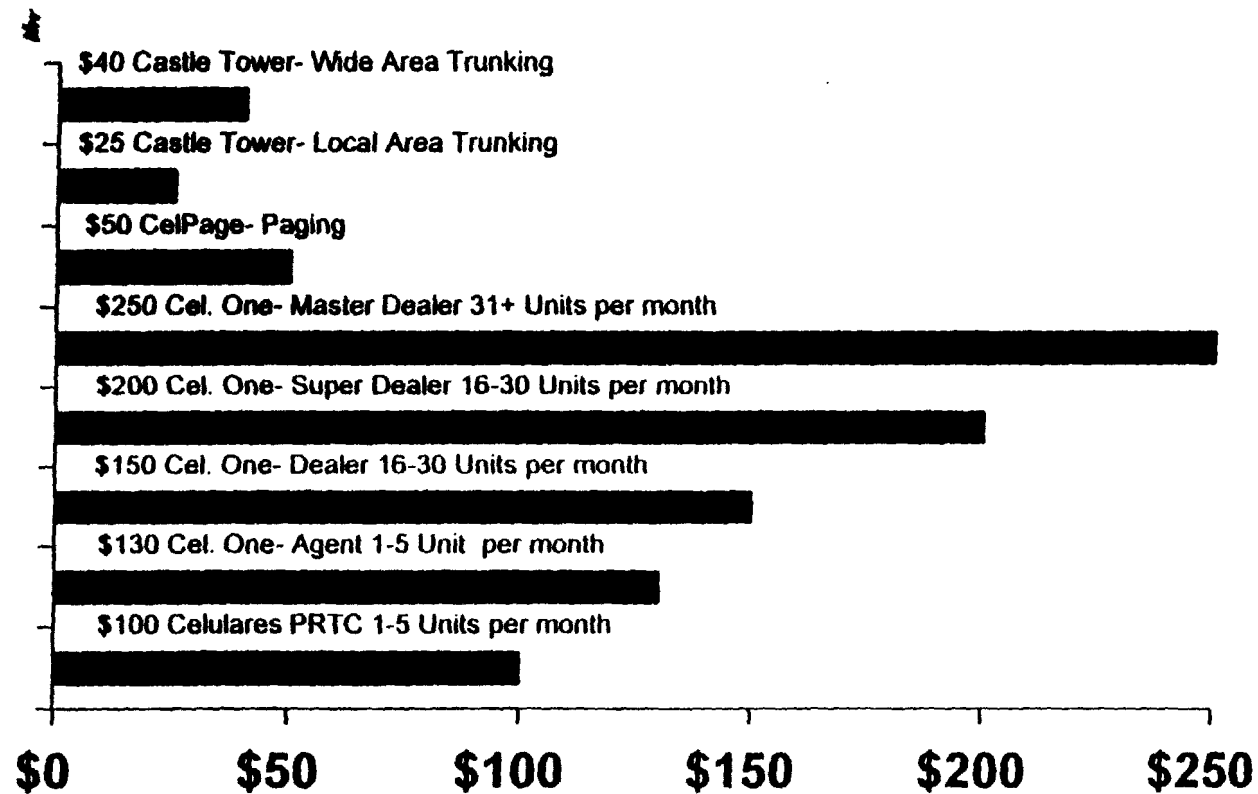
Market Plan

The Puerto Rico Wireless Market

Average Carrier Commissions to Indirect Channel

Commissions Involving Airtime

- Trunking provides one month of airtime fee per activation; channel provides subscribers.
- Paging sells blocks of numbers to resellers. Resellers provide billing and collection.

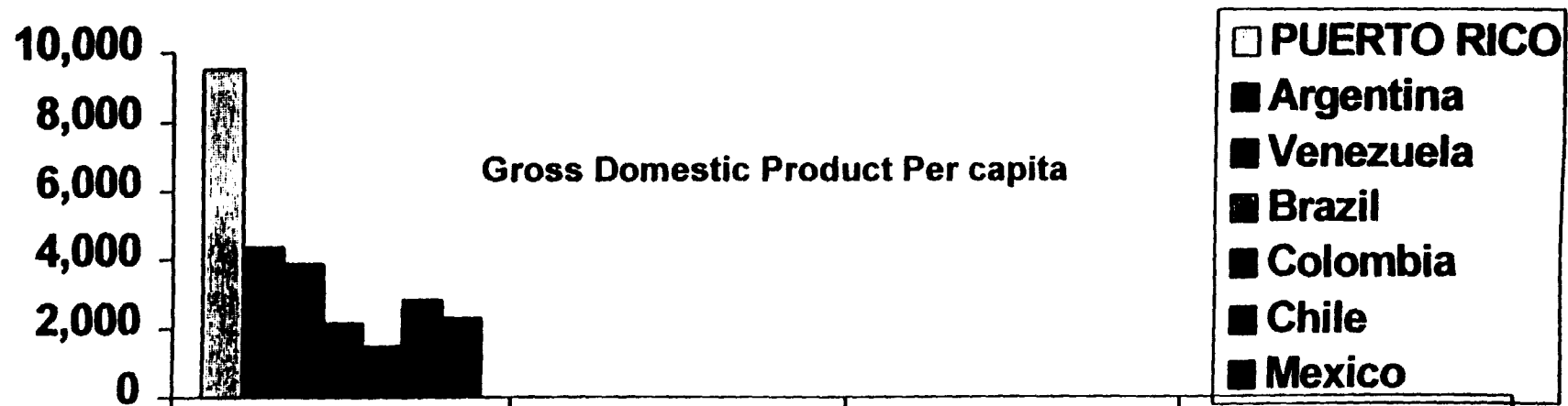
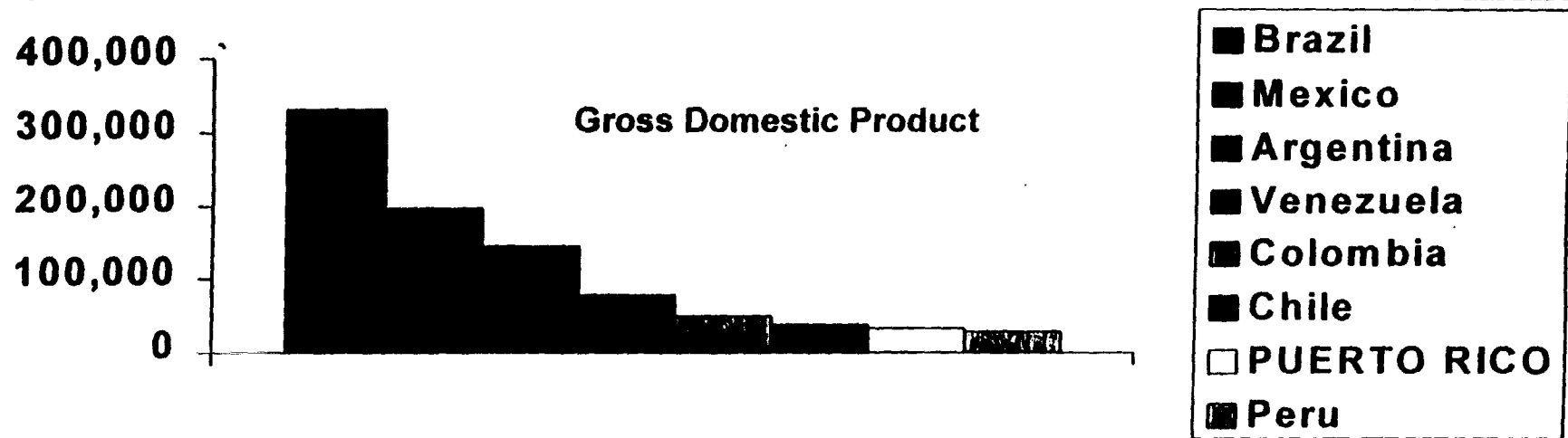


Sources: Castle Tower, CelPage, resellers and dealers.

Market Plan

The Puerto Rico Wireless Market

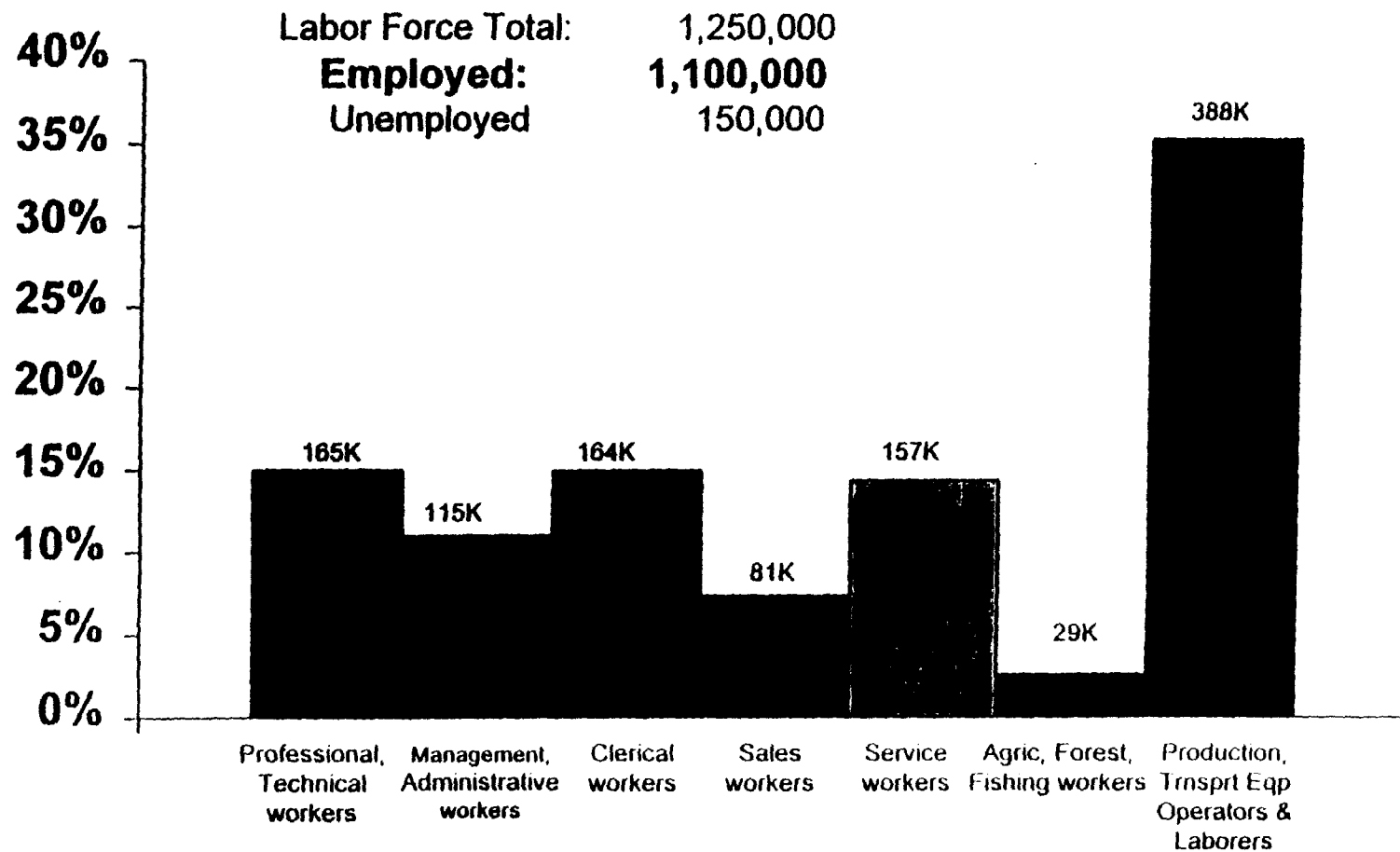
1992 Gross Domestic Product and Per Capita Comparisons



Market Plan

The Puerto Rico Wireless Market

Puerto Rico Employment by Occupation Type



Source: PR Department of Labor & Human Resources